

CLAIMS

What is claimed is:

1. A method for reducing levels of residual halogen and Group IIIb metals in a crude poly(α -olefin) polymerized in the presence of a catalyst comprising the halogen and Group IIIb metals, wherein the method comprises:

- A) washing the crude poly(α -olefin) with water;
- B) separating the aqueous and organic phases;
- C) then adding an adsorbent selected from the group consisting of magnesium silicates, calcium silicates, aluminum silicates, aluminum oxides, and clays to the organic phase to form a slurry;
- D) heating the slurry under reduced pressure at a temperature of at least about 180° C for at least about thirty minutes; and then
- E) separating the adsorbent from the slurry.

2. The method of claim 1 wherein the halogen is selected from the group consisting of chlorine, bromine, and mixtures thereof.

3. The method of claim 2 wherein the halogen is bromine.

4. The method of claim 1 wherein the Group IIIb metal is aluminum

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- 1 5. The method of claim 1 wherein the adsorbent is a magnesium silicate.

- 1 6. The method of claim 1 wherein the heating step is continued for at least about 90
2 minutes.

- 1 7. The method of claim 1 wherein the heating step is continued for at least about 180
2 minutes.

- 1 8. The method of claim 1 wherein the adsorbent is employed at a level of at least about
2 0.4 eq. metal/ eq. halogen.

- 1 9. The method of claim 1 wherein the adsorbent is separated from the slurry by filtration.

- 1 10. A method for reducing levels of residual bromine and aluminum in a crude poly(α -
2 olefin) polymerized in the presence of a catalyst comprising the bromine and aluminum,
3 wherein the method comprises:
 - 4 A) washing the crude poly(α -olefin) with water;
 - 5 B) separating the aqueous and organic phases;
 - 6 C) then adding about 0.4 eq. Mg/ eq. halogen of a magnesium silicate to the
7 organic phase to form a slurry;

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- 8 D) heating the slurry under reduced pressure at a temperature of at least about
- 9 180° C for at least about ninety minutes; and then
- 10 E) filtering the magnesium silicate from the slurry.